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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/669,068 | 09/23/2003 | Ta-Chang Fu | HSJ920030136US2 | 2727 |

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BRACEWELL & PATTERSON, LLP
PO BOX 61389
HOUSTON, TX 77208-1389

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| EXAMINER |
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CAZAN, LIVIUS RADU

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| ART UNIT | PAPER NUMBER |
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3729

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,068

Applicant(s)

FU ET AL.

Examiner

Livius R. Cazan

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-12 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. Claims 1-3, 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuchi et al. (US5309628).

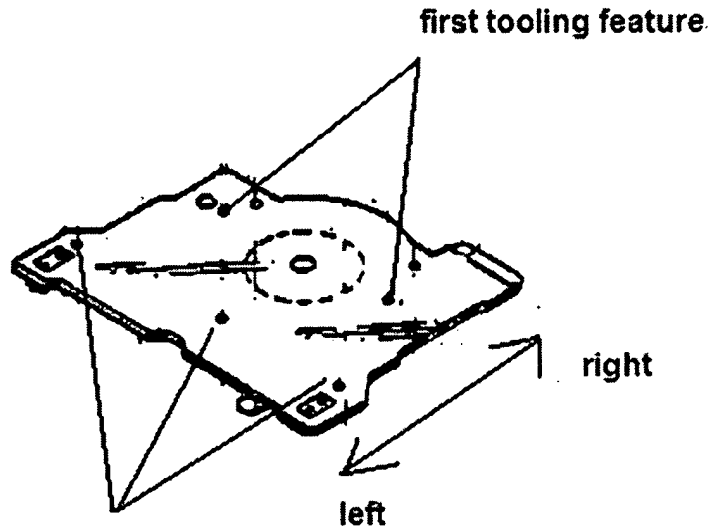
a. Regarding claims 1, 2, and 6 Fukuchi et al. disclose the same invention as the applicant, including:

- (a) providing a spindle motor (motor assembly 21 in Fig. 5) with a hub (body of motor 4 of Fig. 1), a first tooling feature positioning holes 22 in Fig. 5), and fastener holes (holes on motor assembly 21 through which screws 23 pass; see Fig. 5), an assembly fixture (positioning head 40 in Fig. 5) with a second tooling feature (positioning pins 43 in Fig. 5), and a base (main body 20 in Fig. 5) with a motor opening (see motor opening in body 20, Fig. 5) and fastener holes (holes in body 20 into which screws 23 are received); see col. 5, lns. 1-20 and 35-55.
- (b) placing the motor in the assembly fixture such that the first and second tooling features engage each other to position the motor in a desired orientation (see Fig. 5; pins 43 engage holes 22; see col. 5, lns. 15-18);
- (c) moving the assembly fixture toward the base; see Fig. 5; see col. 5, lns. 10-18.

- (d) installing the spindle motor in the motor opening of the base with the assembly fixture such that the fastener holes of the spindle motor and of the base align, and the hub is located on an interior side of the base (see Figs. 3 and 5); and then
- (e) securing the spindle motor to the base with fasteners and removing the hub of the spindle motor from the receptacle in the assembly fixture (see col. 5, Ins. 35-55)

b. Regarding claim 3, Fukuchi et al. disclose the same invention as the applicant, including preventing rotation of the motor relative to the assembly fixture by engaging the first and second tooling features. Clearly, engaging pins 43 with holes 22 prevents motion of the motor relative to the assembly fixture.

c. Regarding claim 5, Fukuchi et al. disclose the same invention as the applicant, including positioning a first tooling feature on one side of the motor and a set of motor fastener holes on an opposite side of the motor. See figure below and Fig. 5. The first tooling feature is positioned on the right side of the motor assembly 21, while some fastener holes are positioned on an opposite side of the motor assembly (left side).



d. Regarding claim 7, Fukuchi et al. disclose the same invention as the applicant, including robotically manipulating the assembly fixture. Assembly adjusting jig 32 in Fig. 5 is used to manipulate the positioning head 40.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuchi et al in view of X_01 (BlueSmoke - HDD Article: IBM Deskstar 60GXP).

Fukuchi et al. disclose the same invention of the applicant, but are silent as to whether a cable of the motor is positioned on an exterior side of the base.

X_01 teaches a disk drive having a motor cable positioned on an exterior side of the drive base (see image).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to position a motor cable on the outside of a disk drive base, in view of the teachings of X_01, to allow easy connection to control circuitry on the outside of the base.

4. Claim 6 is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuchi et al.

Fukuchi et al disclose the same invention as the applicant, except for steps (b) through (e) comprising manually assembling the motor to the base. Clearly, one of even minimal skill in the art would find it obvious that any of steps (b) through (e) could be performed manually, as it is well known to accomplish assembly tasks manually. Applicant's admitted prior art acknowledges this as well (paragraph 6, lines 1 and 2). Furthermore, it would have been an obvious matter of design choice to employ manual assembly, since the applicant has not disclosed that manual assembly solves any stated problem that cannot be solved by robotic assembly.

Allowable Subject Matter

5. Claims 8-12 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach (in combination with all other claim limitations) an assembly fixture for mounting a spindle motor to a base of a hard disk drive, said fixture having a receptacle into which the hub of the spindle motor is inserted so as to

assemble the motor on the base. The prior art teaches a mounting fixture to which the base of the motor (i.e. the mounting bracket) is attached, with the hub pointing way from the fixture, whereas the present application has the hub pointing toward the fixture and inserted into the receptacle of the fixture.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Livius R. Cazan whose telephone number is (571) 272-8032. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571)272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LRC 03/16/2006



PETER VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700